

**FUTURE FISHERIES IMPROVEMENT PROGRAM
DEPARTMENT RECOMMENDATIONS TO THE REVIEW PANEL
SUMMER 2011**

1. The upper Big Hole River and its associated tributaries in Beaverhead County support Montana's last remaining fluvial Arctic grayling population. As part of the Big Hole Arctic Grayling Candidate Conservation Program with Assurances, a plan has been developed to remove migration barriers on enrolled property for the benefit of the grayling, as well as other native and non-native sport fish. Nine existing pin-and-plank irrigation diversion structures, including one on the main-stem Big Hole River and eight located on three tributaries (Rock Creek, Warm Springs Creek and Swamp Creek), have been identified as limiting upstream fish passage for Arctic grayling and other species of fish. Enhancing passage at these diversion structures would provide additional access to spawning and juvenile rearing habitat. The applicant is asking for \$28,250 in Program funds to install 9 denil-style fish ladders and is providing \$12,250 in matching funds toward completion of the project. This proposal is an important effort to help implement the Candidate Conservation Program, and we support the project as proposed. (\$28,250).
2. Big Spring Creek (Fergus County) supports a very popular blue-ribbon rainbow trout and brown trout fishery. A reach of Big Spring Creek, located on property owned by Mark Machler immediately downstream of Lewistown, was channelized in the 1960's, resulting in a straight and entrenched channel with degraded habitat characteristics. In part, this channelization project created the impetus for the ultimate passage of the Montana Natural Streambed and Land Preservation Act (310 law). The project calls for returning meanders to the straightened channel and creating a functional floodplain for 4,000 feet of the stream, resulting in the addition of about 1,400 feet of new channel. The project is located on a new FWP fishing access site that has a permanent walk-in public easement. The Future Fisheries Improvement Program previously committed \$50,000 to this project in the summer of 2010. The applicant now is asking for an additional \$105,000 in Program funds and is providing approximately an additional \$4,000 in matching funds above and beyond what was identified originally. The total cost of this project is \$956,041. The applicant has secured \$361,000 of this total, including the Program funding approved in 2010. We think that this project would substantially enhance rainbow trout and brown trout habitat in a very accessible reach of Big Spring Creek located at the edge of Lewistown. However, the funding request equals approximately one fourth of the entire Program's non-RIT budget for the biennium and the Program has already committed \$50,000 to this project. As a result, we recommend limiting the Program commitment to an additional \$50,000. Reduce to (\$50,000).
3. The Boulder River (Sweet Grass County) supports a popular recreational fishery for rainbow trout, Yellowstone cutthroat trout, brown trout and mountain whitefish. The Dry Creek

Canal is one of the largest diversions in the Boulder Drainage, diverting up to 100 cubic feet per second during the irrigation season. The Dry Creek diversion has been documented to entrain thousands of fish during the irrigation season, with FWP personnel periodically visiting the ditch each fall to rescue fish and return them to the river. The diversion headgate is located about 8 miles upstream from the mouth of the river, with the canal paralleling the river for a distance of about 2,000 feet before heading out to lands in the Dry Creek valley. This project calls for installing a new waste-way gate 2000 feet downstream of the headgate and constructing a return channel to the Boulder River. Approximately 10 cubic feet per second would be maintained year-round in this 2,000-foot canal reach, thereby preserving existing high-quality spawning habitat found there. Without this guaranteed canal flow and new wasteway structure, brown trout redds would be completely dewatered once the headgate was closed, and fish entrained into the canal would be lost. The applicant is asking for \$33,513 in Program funding and is contributing \$45,000 in matching funds towards completion of the project. We feel that this project would benefit the fishery of the Boulder River and support the project as proposed. (\$33,513).

4. Chaffin Creek (Ravalli County) is a tributary to the Bitterroot River located near Darby that supports a mixed salmonid fishery, including bull trout, westslope cutthroat trout and brook trout. Water users on the Trapper Peak Ranch have been directed by the U.S. Forest Service to install a screen on an irrigation diversion to prevent entrainment of fish. The ditch head gate is located on forest service lands, and a fish screen has become a requirement as part of an easement agreement. Only a few miles of the stream maintain adequate flow during the irrigation season to support bull trout and westslope cutthroat trout, and the point of diversion for this ditch is situated within this inhabited reach, making the diversion a likely source of entrainment - although entrainment losses have not been monitored. The applicant is requesting \$11,779 in Program funding to purchase and install the fish screen and is providing \$3,128 in matching funds for the design and \$1,600 in in-kind service for the installation. We are generally supportive of proposals for installing fish screens on irrigation diversions. However, the proposed design for this project is expected to likely fail. A design review by an engineer from the National Marine Fisheries Service (known experts in fish screening technology) stated "This is a bad design and will not work well." As a result, we recommend that funding for this project be denied. (Deny) (RIT eligible).
5. Darnutzer Slough (Madison County), a spring-creek tributary to the Beaverhead River that flows though the John Osborne ranch, has the potential of providing spawning and rearing habitat to fish residing in the river. In 2006, the Program provided \$67,779 in funding to restore approximately 18,000 feet of the stream in an effort to enhance recruitment of fish to the Beaverhead River. Unfortunately, the lower portion of the restored stream now has filled in with sediment due to channel conveyance issues and the management of an adjacent irrigation system. Spawning and rearing habitat within the lower 4,500 feet of channel has been degraded as a result. The issues with the irrigation system contributing excessive

sediment were addressed in 2010 by converting the system to a center pivot sprinkler. This project calls for resizing the lower 4,500 feet of the channel to enhance conveyance of fine sediment, placing additional spawning gravel and installing 160 mature willow transplants. The applicant is requesting \$9,175 in Program funding and is providing \$9,175 in matching funds toward completion of the project. This project has the potential to enhance recruitment of fish to the Beaverhead River and is supported by the local fisheries biologist. Although the proposal lacks specifics on channel design, the proposed contractor has had a long history of successfully enhancing spring creeks. As a result, we support the project as proposed. (\$9,175.00)

6. Frazier Creek (Powell County) is a tributary to the Blackfoot River that supports a genetically pure, disjunct population of westslope cutthroat trout. Upstream fish passage in the stream, as it flows through the Mannix Ranch, currently is hindered by an undersized road culvert and is blocked in its upper reaches by an in-channel reservoir. This project calls for restoring the migration corridor for westslope cutthroat trout by constructing a step-pool channel on the front side of the reservoir and replacing the existing undersized culvert with a new, appropriately-sized culvert using stream simulation methodology for design. The project also would enhance in-stream flow by allowing overflow water to pass down the newly created step-pool channel instead of continuing to have it pass to a ditch located on the backside of the reservoir. The applicant is requesting \$12,000 in Program funding and is contributing \$89,150 in matching funds and \$5,000 in in-kind service towards completion of the project. The step-pool system would involve construction of 78 concrete weirs with associated individual drain tubes. We have serious concerns over the ongoing maintenance that this project would require but, due to the significant matching contribution associated with the project, we support the project as proposed. (\$12,000) (RIT eligible).
7. The North Fork Smith River (Meagher County), as it flows through the Lind Ranch located near White Sulphur Springs, was the site of a recently completed Program project involving the installation of electric fencing on a series of three short segments of the channel. The intent of this former project was to provide a demonstration to the landowner for future riparian management. As a result of this past project, the Lind Ranch now is interested in installing permanent electric fencing on both sides of a 0.8 mile section of the North Fork. The newly created riparian pastures would remain un-grazed by livestock for a three- or four-year period to allow for the recovery of vegetation, including willows that are proposed to be planted. The applicant is requesting \$11,066.20 in Program funding and is contributing \$7,000 in matching funds and \$140 in in-kind services towards completion of the project. We support the project as proposed. (\$11,066.20).
8. Tributaries to the Red Rock River (Beaverhead County), including Hellroaring, Long, Elk Springs, Bear and Fish creeks, are currently adversely impacted by a series of undersized county road culverts. These undersized culverts hinder migration patterns of native fish

within the drainage, including Arctic grayling, westslope cutthroat trout, mountain whitefish, burbot and mottled sculpin. The culverts also have had a propensity for washing out during spring run-off events. This project calls for replacing six undersized culverts with adequately-sized, open-arch pipes or with small bridges. Replacement of the culverts would increase available spawning habitat for Arctic grayling and burbot in four of the stream channels, improve connectivity for an isolated population of westslope cutthroat trout in one of the streams, and prepare one stream for the re-colonization by Arctic grayling. The applicant is requesting \$68,050 in Program funding and is contributing \$29,120 in matching funds and \$44,500 in in-kind services towards completion of the project. We strongly support replacing these undersized culverts. However, due both to the Programs limited non-RIT funds and to what appears to be limited actual matching contributions (approximately \$5,000 in cash and \$12,120 in in-kind services), we recommend reducing the funding level by one half. (Reduced to \$34,025).

9. The Shields River drainage (Park County), upstream of the Chadbourne diversion, supports significant un-hybridized to slightly hybridized Yellowstone cutthroat trout populations. The Chadbourne diversion is an irrigation structure that spans the Shields River south of Clyde Park. This diversion structure historically has acted as a passage barrier to the upstream invasion of non-native rainbow trout into the upper two thirds of the drainage. Although the diversion is largely impassable to upstream movement by both native and non-native species of fish, some rainbow trout have been able to ascend the structure under certain flow conditions, creating a threat to Yellowstone cutthroat trout populations located upstream. The diversion is currently in disrepair and is subject to potential failure. The loss of this structure would greatly threaten Yellowstone cutthroat trout populations in the drainage, as well as create a significant hardship for the water users associated with the diversion. This project calls for making repairs to the diversion to ensure structural soundness, making retrofits to ensure that the structure acts as a complete barrier to upstream fish passage, and installing a fish ladder with an associated holding facility to allow FWP personnel to selectively pass native fish that migrate upstream. The applicant is requesting \$100,004 in Program funding and is contributing \$262,444 in matching funding towards completion of the project. We support the project as proposed (\$100,004.00) (RIT eligible).
10. Smith Lake (Flathead County), located above Whitefish Lake near the town of Whitefish, historically supported a popular recreational fishery for cutthroat trout. In 2000, the DNRC classified the dam on the lake as high hazard, resulting in the lowering of the lake by about 3 feet in order to meet safety standards. The lower lake levels have adversely affected the recreational fishery, with brook trout now dominating the lake. This project proposes to rehabilitate the dam to meet safety standards, thus allowing lake levels to return to full pool. This project previously was considered for Program funding during the winter 2011 funding cycle, but was tabled by the Review Panel due to limited available funding. The applicant now is requesting \$22,680 in Program funds for design and engineering costs and is

contributing \$100,000 in cash and \$22,769 in in-kind services towards completion of the project. We support the project as proposed. (\$22,680).

11. South Fork Nemote Creek (Mineral County), a tributary to Nemote Creek and ultimately the Clark Fork River near Tarkio, supports a genetically pure population of westslope cutthroat trout. Water users are seeking to re-establish an historic ditch head gate about 0.5 miles upstream of a point of diversion used in the recent past. The new ditch construction involves obtaining an easement across property owned by FWP. As part of the easement agreement, FWP is requiring the water users to install a fish screen into the diversion to prevent entrainment, as well as to maintain a minimum in-stream flow. The applicant is proposing to install a coanda-style screen at the new point of diversion, is requesting \$1,350 in Program funding, and is contributing \$100 in matching funds and \$2,684 in in-kind contributions towards completion of the project. While we are generally supportive of installing fish screens into irrigation diversions, we are concerned over the lack of design details in this proposal. However, coanda screens have proven to work in various locations in Montana and we know the local fisheries biologist will write permit conditions to ensure proper installation. As a result, we support the project as proposed. (\$1,350.00) (RIT eligible).
12. Wegner Creek (Lewis and Clark County) is a tributary to the Missouri River located near the town of Craig. This portion of the Missouri River supports an extremely popular recreational fishery for rainbow and brown trout. The Sterling Ranch owns the majority of the property located on the east side of the river from Holter Dam to Rocky Point Road (10 miles) and has a long standing history of balancing public use of the river and maintaining a viable cattle ranch. The ranch is instituting major changes to their cattle management by converting 5 existing hay fields adjacent to the river to an intensive five-pasture grazing system. These new pastures will total 5.59 miles of river frontage and 0.14 miles of Wegner Creek. Wegner Creek provides spawning and rearing habitat for rainbow trout residing in the Missouri River. The intent of this project is to protect 5.73 miles of riparian habitat on the Missouri River and Wegner Creek currently being placed under this new livestock management plan. Pasture perimeters would be fenced with single strand electric fence, with some fencing tying into segments of existing barb wire fence located along the Craig frontage road. The applicant is requesting \$53,500 in Program funding to install the paddock waterlines, risers and water tanks and is contributing \$100,500 in matching funds for labor, fencing, and water pumps. We are very supportive of riparian protection in this reach of the Missouri River, but question the use of Program funds for installation of a grazing paddock water system. We would prefer to fund the fencing portion linked to the riparian corridor. As a result, we support funding 5.73 miles of riparian fencing at a cost of \$0.80 per foot totaling \$24,204.00. (Reduced to \$24,204.00).